

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF NEW YORK

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BRAINWAVE SCIENCE, INC.

Plaintiff,

- against -

ARSHEE, INC., DR. LAWRENCE A.
FARWELL, DR. THIERRY MAISON and
BRAIN FINGERPRINTING FOUNDATION

Defendants.

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Dr. Thierry Maison, being duly sworn, deposes and says as follows:

1. I am a Defendant in the above action.
2. I make this declaration in opposition to the motion for a preliminary injunction brought by the Plaintiff, Brainwave Science, Inc. ("BWS").
3. This declaration is made primarily to rebut and respond to many of the claims made in the declaration of Krishna Ika in support of BWS's motion.
4. I will specifically address many of the errors and misstatements made in Mr. Ika's declaration.
5. In terms of my background and experience as it relates to the matters raised in this action, I respectfully refer the Court to my curriculum vitae attached as Exhibit A.
6. References will be made to the ECF page ID# and the paragraph numbers of Mr. Ika's declaration so that the Court can examine each side by side to more easily discern the conflicting facts alleged in each declaration.
7. At page ID #85 ¶ 8, Mr. Ika claims I acted as the "chief architect for the iCognitive system. However, this product name or market was created after I departed from BWS.

8. At Page ID #86, ¶ 10 (c), contrary to what Mr. Ika claims, the capture of P300 brainwave response is the capture of Electro Encephalogram (EEG) measurements, a technique created by Hans Berger in 1924 - <https://en.wikipedia.org/wiki/Electroencephalography>. There is nothing proprietary to BWS in regard to this technique. Many EEG capture devices existed before BWS created their own.
9. Page ID #86 ¶ 10 – (d): “Noise” is a random signal. Removing noise is a very old technique used in many advanced digital signal processing processes. By adding multiple frames to eliminate the random signal, it leaves intact the real signal. It is a basic property of random numbers and was not created explicitly for BWS. It is used in radio, image processing, and very low signal processing. I refer the Court to these publicly available sources that explain the noise elimination technique:
<https://4nsi.com/optimizing-image-signal-to-noise-ratio-using-frame-averaging/>
<https://terpconnect.umd.edu/~toh/spectrum/SignalsAndNoise.html>
<http://www.columbia.edu/cu/appliedneuroshp/Fall2017/signalprocess.pdf>
10. Page ID #86 Paragraph 10(f): I did not design Machine Learning (ML) or Artificial Intelligence (AI) algorithms in the Brainwave Science system. Using ML and AI for such analysis would require a powerful computer that is only available in Cloud computing.
11. Page ID #86 ¶ 11: The algorithm for Brain Fingerprinting analysis is a simple mathematical comparison of three signal curves captured under three stimulus conditions.
12. First, establish a “baseline” by presenting stimuli that have nothing to do with the fact or facts under investigation. We call those facts “Irrelevant” in the Brain Fingerprinting lingo.

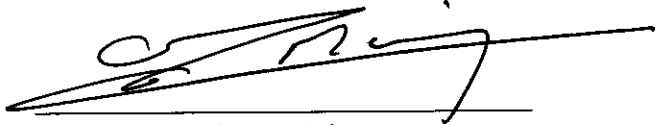
13. Second, we qualify the typical response of the subject brain by presenting facts that we are certain are known and familiar to the subject. Those facts are called “Targets”.
14. Third and last, the investigator prepares a fact that only the perpetrator would know. The investigator must ensure that this fact is not publicly divulged and therefore cannot corrupt any measurement on innocent or other subjects. Those specific facts are called “Probes”.
15. Then facts are presented randomly to the subject and the corresponding measurements are created.
16. The analysis consists of a simple comparison of the three types of curves. Public domain mathematical algorithms like Pearson Correlation are used. I respectfully refer the Court to https://en.wikipedia.org/wiki/Pearson_correlation_coefficient.
17. Contrary to what BWS claims, there is nothing proprietary about data analysis. Simply explained, if the Probe looks like more to a Target, the fact is known. If the Probe resembles more as an Irrelevant, the fact is unknown. We give the investigator a percentage ratio of the comparison. Brain Fingerprinting does not establish a guilty/innocent judgment. Only the investigator determines that.
18. The only device that could be considered unique to BWS is the EEG headset and its software interface design. However, that design was very specifically excluded from the Farwell Brain Fingerprinting design.
19. Page ID #86 ¶ 13: Contrary to Mr. Ika’s claim that the system was created on a cloud-based server, during my tenure with BWS, the application was developed in a company-hosted development environment server, not a cloud-based environment.
20. Page ID #86, ¶ 20: The referenced Google Drive was created at the request of Mr. Paul Tomkins, attorney for BWS, and was a copy of my note directory. This directory and/or its

content were never supplied to Farwell. Nothing contained in the Google Drive is proprietary to the BWS application; rather, it includes only copies of open-source programs and applications that inspire me in creating new features in the Farwell Brain Fingerprinting application.

21. I found the entire BWS source code located in a publicly accessible directory with a Google search. I created a copy and hosted it in a Visual Studio cloud-based development environment, with a link I later shared with Mr. Tomkins. Recognizing the [publicly accessible] software, I admitted to Mr. Tomkins only that I made a copy of it and used the non-proprietary portion of the software.
22. Page ID #86 ¶ 22: The Proprietary portion of BWS software was deleted and replaced with our development, in particular note our capture software uses a 4 channel EEG, while BWS uses only two. Sharing this link demonstrates that the allegedly proprietary software was not used. Our software includes a new DC (direct current) removal to combat the galvanic problem of EEG electrodes (not in BWS software) and Digital Signal filtering for ERP display (not in BWS software). The Codequery software comparison of the BWS proprietary software and our proprietary software was conveniently omitted.
23. Page ID #86, ¶ 23: It is clear to me that the BWS software and Codequery were manipulated to make it appear that we had plagiarized BWS software. Our User interface utilizes a green color background, while BWS uses a blue background (Page ID #86 ¶ 22 – Exhibit B) and the side-by-side windows view demonstrates that they modified their code to use the same color to influence the Exhibit. Additionally, the comparison of the proprietary software was never provided. (Exhibit D)

24. As a general matter, there is very little about the BWS system that could be considered new or proprietary. Nothing incorporated into the Farwell system was unique or proprietary to the BWS system.
25. To the extent that Mr. Ika's affidavit is based on his own scientific knowledge, I would respond that Mr. Ika is not a scientist and has little to no understanding of the brainwave technology. This is why he looked to outsiders to attempt to manipulate the existing technology.
26. His purpose is to exploit the brainwave technology solely for monetary reasons. While that may be a legitimate motive, it calls his credibility into question.
27. To the extent my declaration conflicts with Mr. Ika's declaration, a hearing should be held where Dr. Farwell and I can testify more specifically to the workings of the BWS system as compared to our system.
28. At such a hearing I believe the Court will see that there is very little that could be considered proprietary about the BWS system.

Dated: Franklin, Massachusetts
November 12, 2021



Dr. Thierry Maison

Sworn to before me this 13 day of November 2021


Notary Public